Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed

1.1. Name of the Data, data collection Project, or data-producing Program:
NOAA TIFF Image - LIS_2014_Biogeo_Backscatter_1m.tif - Benthic Habitat Characterization - Biogeographic Branch - (2014), UTM 18N NAD83

1.2. Summary description of the data:
This dataset contains a unified backscatter GeoTiff with 1x1 meter cell size representing the 2014 Long Island Sound Benthic Habitat Priority Area of Interest off of Port Jefferson, NY. This backscatter dataset is a mosaic of surveys from the NOAA Ship S-222 Thomas Jefferson and its two inshore launch vessels, the NOAA Ship S-590 Rude, as well as surveys conducted by the University of Rhode Island and Stony Brook University in coordination with the NOAA Biogeography Branch and the Integrated OCean and Coastal Mapping Branch between 2001 and 2013. Backscatter data was collected using multibeam sonars and side scan sonars and mosaiced into a raster using ArcGIS 10.1 and Envi 5.0 software at the Biogeography Branch by a NOAA contractor.

1.3. Is this a one-time data collection, or an ongoing series of measurements?
One-time data collection

1.4. Actual or planned temporal coverage of the data:
2012-05-19 to 2014-01-17

1.5. Actual or planned geographic coverage of the data:
W: -73.20388508, E: -72.95157157, N: 41.21088, S: 40.94487

1.6. Type(s) of data:
(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
raster digital data

1.7. Data collection method(s):
(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:
NCCOS Scientific Data Coordinator

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:
NCCOS.data@noaa.gov

2.5. Phone number:

3. Responsible Party for Data Management
Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:
NCCOS Scientific Data Coordinator

3.2. Title:
Data Steward

4. Resources
Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):

5. Data Lineage and Quality
NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible
(describe or provide URL of description):
Process Steps:

- 2012-05-01 00:00:00 - Data was collected aboard the NOAA Ship Thomas Jefferson between May 19th and July 30th, 2012. Multibeam data were acquired in .hsx format with three hull-mounted Reson 7125 MBES attached to the Thomas Jefferson and its two inshore hydro launch vessels, 3101 and 3102. Backscatter snippet collection was enabled and logged in .7k files. Line spacing for acquisition was three times the water depth, and data was retained out to 60 degrees from nadir. Heave, roll, pitch and heading correctors were collected using an Applanix POS/MV Model 320 V4 inertial measurement unit (IMU) and associated Trimble GPS antennas. Sound velocity profiles were acquired with a Seabird Electronics SeaCat SBE19P CTD profiler and processed using NOAA's Velocwin V8.85 software, then applied directly to the raw data. Positioning was obtained using Trimble Zephyr GPS receivers. Data was reduced to Mean Lower-Low Water (MLLW) using final approved tides from NOAA COOPS, based on National Water Level Observation Network (NWLON). | Source Produced: Raw Multibeam Data (Citation: Raw Multibeam Data)

- 2012-07-01 00:00:00 - Raw .hsx and .7k data were converted to .gsf and processed using Hypack MBmax software, resulting in a .gsf format dataset. SWMB data was cleaned of fliers, filtered and was reviewed by the Bigeography branch. | Source Produced: Raw Multibeam Data (Citation: Raw Multibeam Data)

- 2012-07-01 00:00:00 - The multibeam backscatter .gsf data were corrected for geometric and radiometric distortions using FMGT. In particular, the following corrections were applied where appropriate and when artifacts were evident: AVG Trend, TX Power and RX Gain, Area Correction, Spreading, Slant-Range and Extracted Beam Pattern. As no theoretical beam pattern for the Reson 7125 system exists, it was extracted for each vessel from a mapped area that was flat and had a relatively uniform (sandy) substrate. Individual lines were also truncated based on ping number and/or angle of incidence where appropriate. The final mosaics were exported as geotiffs in NAD 1983 zone 18N on a relative 0-255 linear color scale. The intensity results varied between each vessel as there were no ground validation samples that could be applied to acurately assess and calibrate the beam patterns. | Source Produced: Raw Multibeam Data (Citation: Raw Multibeam Data)

- 2012-07-01 00:00:00 - Side scan sonar surveys were conducted by the NOAA Ship Rude in 2001 and 2003 by the Atlantic Hydrographic Branch to map the shipping entrance into Bridgeport Harbor and detect hazards to navigation. This data was retrieved by the Biogeography Branch in summer of 2012 for the purpose of habitat classification, and was reprocessed using CARIS SIPS 7.1. The side scan data was then assessed for quality, and normalized to blend together with the Thomas Jefferson 2012 backscatter mosaic using ArcMap 10 and Envi 5.0 imagery enhancement software. | Source Produced: Raw Side Scan Sonar Data (Citation: Raw Side Scan Sonar Data)

- 2014-01-01 00:00:00 - Multibeam sonar surveys were conducted by the University of Rhode Island in coordination with the Biogeography Branch to collect more acoustic data within the Long Island Sound spatial prioritization area of interest. The URI provided the Biogeography Branch with three surveys from the Bridgeport

Harbor. The surveys were then assessed for quality, normalized, and blended together with the Thomas Jefferson and Rude mosaic using ArcMap 10 and Envi 5.0 imagery enhancement software. | Source Produced: URI Bridgeport Side Scan Sonar Mosaics (Citation: URI Bridgeport Side Scan Sonar Mosaics)
- 2014-01-01 00:00:00 - Multibeam sonar surveys were conducted by the Stony Brook University School of Marine and Atmospheric Sciences in coordination with the State of New York and the Biogeography Branch to collect more acoustic data within the Long Island Sound spatial prioritization area of interest. Stony Brook also provided data to cover gaps from the NOAA Thomas Jefferson and Rude surveys, to make a complete backscatter mosaic. The surveys were then assessed for quality, normalized, and blended together with the Thomas Jefferson and Rude mosaic using ArcMap 10 and Envi 5.0 imagery enhancement software. | Source Produced: Raw Multibeam Data (Citation: Raw Multibeam Data)

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

6. Data Documentation
The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?
No

6.1.1. If metadata are non-existent or non-compliant, please explain:
Missing/invalid information:
- 1.7. Data collection method(s)
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.2. Name of organization of facility providing data access
- 7.2.1. If data hosting service is needed, please indicate
- 7.3. Data access methods or services offered
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive

facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

6.2. Name of organization or facility providing metadata hosting:
NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:
https://www.fisheries.noaa.gov/inport/item/38767

6.4. Process for producing and maintaining metadata
(describe or provide URL of description):
Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

7. Data Access
NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:

7.2.1. If data hosting service is needed, please indicate:

7.2.2. URL of data access service, if known:

7.3. Data access methods or services offered:

7.4. Approximate delay between data collection and dissemination:

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

8. Data Preservation and Protection
The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:
(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):
    National Centers for Coastal Ocean Science - Silver Spring, MD

8.3. Approximate delay between data collection and submission to an archive facility:

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?
Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection

9. Additional Line Office or Staff Office Questions
Line and Staff Offices may extend this template by inserting additional questions in this section.